

REMARKS

Pending Claims

Claims 1-6 remain pending in the application. Claim 1 has been amended. Support for amended Claim 1 can be found throughout the specification, for example, on pages 4, 19-21, 23, 24, 26 and Figures 2, 14 and 21. Thus, the amendment does not constitute new matter.

Provisional Double Patenting Rejections

The Examiner has provisionally rejected Claims 1-6 on the ground of nonstatutory obviousness-type double patenting in light of Claims 1-8, 10-29, 49 and 50 of co-pending application no. 09/804,457 ("the '457 application"). The present application requires the application of two pulse series with a pause in between. Each pulse series is multiple pulses, and the pause is longer than the inter-pulse spacing in each series. This limitation is not taught or suggested in the 09/804,457 claims. It is thus respectfully submitted that the claims of the present application are patentably distinct from the claims of application 09/804,457. The applicant respectfully requests that the double patenting rejection be withdrawn.

Rejections under § 112 ¶ 1

The Examiner rejected Claims 1-6 under 35 U.S.C. § 112 ¶ 1 as being unpatentable. The Examiner stated that "because the specification [of the present application] while being enabling for a method claimed where the field strength is 0.2% of the mean, does not reasonably provide enablement for a method claimed where the field strength is greater than 0.2% of the mean. . . . [T]he specification teaches that [an] electric field strength [] greater than 0.2% of the mean is enabled [], whereas the electric field of 10% of the mean is not acceptable." More specifically, the Examiner states that "the specification teaches that the electric field strength [] greater than 0.2% is enabled (page 97 of the specification) whereas the electric field of 10% [or greater] of the mean is not acceptable (page 96, line 10 of the specification.)"

Applicants agree the specification teaches that relatively uniform fields are desirable in practicing the invention. In this regard, the application defines "uniform electric field" as any electric field that is within 15% of the mean at all points within an area of observation at any

given time. However, the Examiner is misreading the specification when concluding that the specification does not provide enablement for deviations greater than 0.2% of the mean. Examples 1 and 3 through 6 illustrate electrode and well configurations that produce a “uniform electric field” as defined in the specification. In Example 1, the maximum and minimum fields within the area of observation are within about 10% of the mean. In Examples 4 and 5 the maximum and minimum fields within the area of observation are within about 0.12% of the mean. Thus, the specification provides explicit and specific disclosure of systems producing a variety of different field uniformities suitable for use in the claimed systems and methods. Applicants thus respectfully submit that the claims are enabled by the disclosure provided in the specification and request withdrawal of the Examiner’s rejection of amended Claim 1 and the claims that depend therefrom for lack of enablement.

Rejection of Claims 1-6 under § 102(b)

The Examiner has rejected Claims 1-6 under 35 U.S.C. § 102(b) as anticipated by Sinha et al. (1995) (hereinafter “Sinha”).

Sinha does not disclose all of the elements of amended Claim 1. Claim 1 has been amended to further specify the nature of the two pulse series and the pause. Sinha discloses stimulating hippocampal cells with pulsed electric field potentials. Sinha shows two individual pulses separated by 50 milliseconds, not two pulse series separated by a pause. See e.g., Figure 4 and pages 55-56 of Sinha. Thus, Sinha does not disclose all of the elements of amended Claim 1. Further, the methods recited in amended Claim 1 are designed for use in high throughput assays. Thus, the method recites “placing a population of cells . . . in a plurality of sample wells in a multiwell plate.” Sinha does not disclose the method recited in amended Claim 1 for high throughput assays. For at least the reasons discussed above, amended Claim 1 is not anticipated by Sinha.

The methods of amended Claim 1 can be used to characterize the recovery of voltage-gated ion channels from voltage inactivation and from blockage by channel blockers. Some examples of such embodiments are found in Figures 34-37 of the present application and at pages 123-124 of the specification. Independent Claim 1 has been amended to include limitations

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related to the use of this discovery in the high throughput drug screening process. Thus, even if Sinha were considered by the Examiner to implicitly or inherently fulfill the claim limitations regarding multiple pulse series, no suggestion to apply this in drug discovery is provided by Sinha or other references of record. Applicants thus respectfully request that the Examiner's rejection of amended Claim 1 and the claims dependent therefrom be withdrawn.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

CONCLUSION

The Applicants have endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, arguments in support of the patentability of the pending claim set are presented above. In light of these remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.


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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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